

ABSTRACT OF THE DISCLOSURE

A multi-bit split-gate (MSG) flash cell with multi-shared source/drain and making of the same are disclosed. The MSG is formed with $N+1$ stacked gates comprising floating gates and control gates, separated by N select gates, all sharing the same source/drain between a pair of bit lines. With the disclosed MSG, a multiplicity of $N+1$ bit programming can be accomplished bit by bit where the programmed bits are selected by word line, bit line and control gate. In the erase operation, erased bits are selected by word line, while in the read operation, operations similar to write operation are performed. Thus, it is disclosed here that a plurality of $N+1$ bits or cells, where N is any integer, can be formed between two bit lines and along the same word line.